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STRATEGIC AIRLIFT: SUPPORTING THE THEATRE COMMANDER

By

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract of

STRATEGIC AIRLIFT: SUPPORTING THE THEATRE COMMANDER

At the beginning of the 21st century, we are reminded by events in Afghanistan and Iraq that the U. S. military faces global responsibilities, which challenge resources and stress power projection capabilities to maximum levels. The United States must be able to deter and defeat aggression in distant theaters. This paper addresses the power projection role of each Service and how its needs will be met by air mobility. It reviews how current Service visions, doctrine, and mobility requirements studies provide forces to meet the needs of the theater commander.

Each Service has spent considerable time expounding vision and doctrine that are rational and relevant to today's world. Each vision and doctrine tells an elegant story and stands on its own merit, but taken together they have competing goals for strategic airlift and thus impact the resources available to the theater commander. This paper argues that current Service vision and doctrine espouse agility using deployable and sustainable packages. Contrary to reducing the airlift requirement, however these agile combat forces increase airlift requirements. These requirements can be met through careful sequencing of combat forces and knowledge of strategic airlift capabilities, most notably direct delivery.

Generally, he who occupies the field of battle first and awaits his enemy is at ease; he who comes later to the scene and rushes into the fight is weary.

--Sun Tzu Bingfa, The Art of War

Introduction

As America begins its trek into the 21st century, we are reminded by events in Afghanistan and Iraq that the U. S. military faces global responsibilities, which challenge resources and stress power projection capabilities to maximum levels. The United States, a global power with worldwide interests, must be able to deter and defeat aggression in distant theaters. This core ability, to project power, is central to a credible military instrument of national power. This paper addresses the power projection role of each Service and how its needs will be met by air mobility. It reviews each Service vision, Joint Vision 2020, Service doctrine and three air mobility studies to determine the impact of airlift availability against the broad view of how each Service plans to contribute to U.S. national goals. As doctrine is discussed, salient points that will create impact, both positive and negative, for the Combatant Commander and staff will also be addressed. This paper posits and answers the question, will current Service visions and doctrine provide air deliverable forces adequate to meet the needs of the theater commander? In order to meet length requirements, and due to its sea-centric nature, the Navy will not be discussed in detail, but pertinent information will be inserted where necessary.

Thesis

Each Service has spent considerable time expounding vision and doctrine that are rational and relevant to today's world. Each vision and doctrine tells an elegant story and stands on its own merit, but taken together they have competing goals for strategic airlift and thus impact the resources available to the theater commander. This paper argues that current Service vision and doctrine espouse agility using deployable and sustainable packages. Contrary to

reducing the airlift requirement, however these agile combat forces increase airlift requirements.

Vision

Each Service views itself as expeditionary and recognizes the need for speedy power projection. The Navy projects power from the sea in combination with its air arm, missile capability, and Marine Corps combined arms team.¹ The Navy plans on six months for a normal deployment, but can self-sustain indefinitely in a forward area through its own logistic ships.²

The Army vision proposes significant transformation. It requires a major restructure of forces, and changes in mindset and business practices at every level. As this vision matures, lift requirements for the Army will change as the Army transitions from its legacy heavy forces through intermediate Stryker brigades, and finally to the light and lethal Army After Next. The Army envisions its strategic responsiveness as dependent on “forward deployed forces, forward positioned capabilities and force projection”.³ The Army’s goal is to put combat forces anywhere in the world within 96 hours after liftoff, provide a warfighting division in 120 hours, and five more divisions within 30 days.⁴ A key concept in the Army vision is the ability to project forces from the CONUS or any other location into the combat theater.⁵

The Air Force vision rests on three tenets: Global Vigilance, Reach, and Power. Given an expeditionary mindset, the plan is to deploy one Aerospace Expeditionary Force (AEF) in 48 hours and up to five in 15 days.⁶ The idea is to project power quickly to tackle the mission at hand. As an example, Lt. Gen Hogle, vice commander of Air Mobility Command (AMC) in 1998, cited the ongoing efforts of Central Command (CENTCOM) to establish an air

expeditionary force deploying 30 fighters and U.S. based bombers to Southwest Asia within 48 hours. It takes 110 strategic airlifters, 135 aircrews, and seven mission support teams to accomplish a deployment even this small. To complicate matters, the cargo could consist of as much as 70 percent outsized and oversized, which only organic airlift can carry.⁷ The size of an AEF airlift will be tailored to meet the requirements of the theater commander. The theater commander will need to carefully weigh the size and timing of the AEF requested, keeping in mind that early delivery and large size will reduce airlift available to deliver ground forces.

The Marine Corps partners with the Navy as a forward-deployed, short-notice expeditionary force. However, the land capability of the Marine Corps and its high levels of readiness make it a viable force for movement into trouble areas divorced from the Navy. Rapid transport is inherent in the mission of the Corps and is discussed in *Maritime Prepositioning Force 2010 and Beyond*, as “combine(ing) the capacity and endurance of sealift with the speed of airlift to rapidly deploy MAGTFs to objective areas...”⁸

Service visions are consolidated in Joint Vision 2020 (JV2020), which combines some of the Services’ terminology and states that, “...*full spectrum dominance implies that US forces are able to conduct prompt, sustained, and synchronized operations with combinations of forces...*”⁹ JV2020 further notes the need for unmatched speed and agility in positioning or repositioning forces to widely dispersed locations.¹⁰

The Army, Air Force, and Marine Corps vision statements recognize that the ability to deploy rapidly and sustain combat forces is limited by the availability of lift, and so these vision statements also endorse a limited logistics footprint. The Army plans on aggressively reducing its logistic footprint and replenishment demands. The Air Force advocates reducing

the forward footprint by 50 percent and relying on reach-back operations in order to sustain forces.¹¹ By doing this, units can deploy much more quickly, and critical lift forces required to move them can be used for more urgent requirements. The Marine Corps vision describes an “at-sea” arrival and assembly of the maritime prepositioning force to eliminate the need for ports and airfields, but then goes on to endorse the use of surface mobility means, such as strategic, theater, and tactical airlift to feed those prepositioning platforms while they are enroute to the objective.¹² This should effectively reduce the distances and throughput requirements, and therefore reduce the logistic footprint. The Marines plan on indefinite sustainment from the sea.¹³ JV2020 discusses a reduction in lift requirements based on new capabilities and a more efficient management of resources. The Navy does not require significant airlift. It will rely on high-speed sealift to sustain its operations, although some high priority parts and supplies will move through the normal airlift channel contracted from USTRANSCOM and “special units”^a will airlift through the Special Assignment Airlift System (SAAM).

These visions translate into doctrine, and in doctrine we begin to see an outline of combat forces and their impact on delivery to the theater.

Doctrine

The Army After Next (AAN) concept is taking shape through wargaming and experimentation. The outline of the AAN battle force points to mobility and speed of maneuver as the most important factors for battlefield success. Findings indicate that the AAN must be “capable of deploying directly from the continental United States (CONUS) onto the battlefield...”¹⁴ What is emerging from the AAN battle force prospectus presents

^a Special Boat Units (SBU), Seal Units, and the Deep Submersible Rescue Vehicle (DSRV) are Navy assets that are frequently airlifted into theater to meet short notice requirements.

significant challenges for the logistics community. Of primary concern is the fact that, even in 2025, the Army will still use large numbers of legacy forces. These heavy forces are hard to deploy and have large support requirements. The AAN force, scheduled to provide the initial punch, will have to compete for lift with the legacy forces mobilizing to support the AAN. The AAN forces could direct deliver, but the legacy force will still require forward staging bases to consolidate equipment and supplies. This will create competing and additive lift requirements, not only for initial delivery, but also for supply. Today the two major contributors to system weight are fuel and ammunition, accounting for 80 percent of the Army's transportation requirements.¹⁵ As a result, efforts to reduce these burdens are critical if the heavy forces are to play a part.

Air Force doctrine considers failure to manage deployment and sustainment operations as tantamount to defeat. The deployment plan is a bit tricky, because it will be tailored to the level of conflict and the desired objectives. Because almost all Air Force assets will be tailored then airlifted, and could be as large as a numbered air force of wings, groups, and squadrons,¹⁶ it is extremely difficult to derive set resources needed for the airlift. Complicating matters, the Air Force plans on using reachback for additional forces and material to reduce the initial footprint and preserve critical lift, thus stretching the surge requirement over time. The danger is that once the first units are in place, they will require follow-on assets, supplies, or personnel from home station beyond the scheduled follow-on flow, creating even more demand on the airlift system.

Marine Corps doctrine emphasizes its naval expeditionary character. The doctrine is based on the recognition of a reduced overseas presence, and that the capability to deploy rapidly is an essential element of the strategy. Marines envision the sea as the only practical way to

deploy large military forces to distant theaters, but at the same time have committed an on-call contingency MAGTF ready for deployment by strategic airlift within 18 hours.¹⁷ All the equipment moves by ship, all the troops by air. This deployable MAGTF could be as large as a regiment, with aviation and combat service support forces embedded.

Discussion

*Large-scale, conventional war—war as understood by today’s principal military powers—may indeed be at its last gasp; however, war itself, war as such, is alive and kicking and about to enter a new epoch.*¹⁸

--Martin Van Creveld

Mobility Requirements

Doctrine is the expression of how the Services will contribute to the war fighting effort. It provides a common understanding of how the Soldier, Sailor, Airman, and Marine will conduct operations within their Services, and joint doctrine specifies how the Services will fight together. Doctrine tells us how each Service plans on getting to the fight. Doctrine, however does not tell us how much sea or airlift is required. The Combatant Commanders, through the deliberate planning process, can provide a limited answer, in how much lift will be required for particular scenarios within their theaters. Things get more complicated when attempts are made to construct multiple scenarios across theaters incorporating all the lift requirements that can be foreseen, and then predicting a potential maximum.¹⁹ Yet there must be a credible scenario against which to plan. This scenario is a construct that resides in three major studies^b commissioned to determine the potential lift requirements to support major U.S actions.²⁰

^b In addition to the three mobility studies, the 1997 Quadrennial Defense Review (QDR) increased the visibility of mobility force shortfalls. The QDR effectively laid to rest the idea that the United States could meet its military obligation without updating its airlift fleet and, in a direct nod to the C-17, endorsed the idea of direct-to-the-front strategic airlift. The combatant commanders partnered with AMC to justify the requirements, which added weight of argument and increased the funding priority. The QDR, pre-911, noted that, “The burdens placed on U.S. strategic mobility forces will not become less demanding in the future. To the contrary, the

The first Mobility Requirements Study (MRS), conducted in 1992, was driven by strategic mobility concerns from Operation Desert Storm. The study developed mobility requirements for a single Major Regional Conflict (MRC) and instigated many of today's strategic mobility programs, including the Large, Medium Speed, Roll-on/Roll-off (LMSR) vessel, the C-17 aircraft, pre-positioned stock, and the Army Strategic Mobility Program.²¹

In 1994 the Bottom Up Review (BUR), following changes in the National Security Strategy, increased the scenario from one to two MRCs, which drove a follow-up requirements review known as the Mobility Requirements Study, Bottom-Up Review Update (MRS-BURU). This study, published in 1995, reaffirmed the results of the previous MRS, but recommended some adjustments and also set the baseline for the organic inter-theater airlift mix.²²

In 1998, a new National Military Strategy issued in 1997 and five years experience of small-scale contingencies (SSCs), peacetime presence and engagement missions, and WMD threats led the Secretary of Defense to commission a new study entitled the Mobility Requirements Study-2005 (MRS-05). The study was the most comprehensive to date and included active participation from the Office of the Secretary of Defense, the Joint Staff, and the Unified Commands and Service staffs. The group was chartered to examine the number and mix of mobility systems needed to support two near-simultaneous major theater wars in a chemical environment.

potential demands of peacetime engagement, reduced infrastructure at overseas bases needed to support airlift en route to crisis, the likelihood of Smaller-Scale Contingencies worldwide, and the increased possibility of confronting nuclear, biological, and chemical threats all pose challenges for mobility forces...." William S. Cohen, Report of the Quadrennial Defense Review 1997, May 1997, sect. V.

MRS-05 produced an in-depth analysis of mobility requirements based on some clearly delineated assumptions. It also gave us the metric that is used to support the Air Force in its quest to modernize mobility hardware, and the acid test to determine the maximum force footprint that airlift is capable of delivering. The metric, 54.5 million ton miles per day (MTM/D), is the total airlift requirement to conduct two major theater wars, including deployment, support for high-priority movements within the theaters, and other high-priority missions not directly associated with the two MTWs, such as Presidential support airlift.²³

MRS BURU and MRS 05 gave us ton-mile requirements for given scenarios. These numbers provide a hard metric and the maximum supportable force footprint against which the United States Transportation Command (USTRANSCOM) projects readiness. However, for the theater commander, the ton-mile metric misses some salient points. The topography of the conflict area may not change the overall numbers of ton-miles that are required for closure, but may change the method of delivery. A landlocked country could present an especially difficult undertaking if there are no friendly neighbors or good ports for sealift. In this case the theater commander may have little choice except to depend totally on airlift, which would drive the delivery rate well beyond the resources available. The recent operation in Afghanistan is a good example of a scenario that did not fit the confines of mobility studies.^c Unforeseen high priority airlift requirements were a constant source of pressure and resulted in the utilization of Presidential Selected Reserve Call-up (PSRC) for an operation that moved relatively few troops.

^c The Afghanistan scenario included the movement of Al Quada “detainees” from in-country to Guantanamo Bay, Cuba. Due to political considerations, the operation had to be done by air using an airbridge from Turkey to Cuba, and due to the high-visibility nature of the mission, drew resources out of proportion to the actual task. It was a resource intensive operation that did not follow the assumptions used in the MRS studies.

Direct Delivery

The Air Force used MRS-05 to convert MTM/D into hardware, i.e., the number of aircraft that must be available to support the given scenario. The Army, in its effort to decrease size while maintaining lethality, used MRS-05 as a measurement tool to determine the air transportability of units. In both cases the metric may be missing some salient points. The first is that the metric is based on a standard delivery method that goes from airport to airport to theater. The Air Force's platform of choice (C-17), however, is designed and intended to provide direct delivery, although it can be used as a strategic airlift platform. Choosing the direct delivery option does significantly increase the requirement for tanker support, which could be a problem during the early phases of an operation, as fighter aircraft are moved into theater using those same tanker assets. The positive effect of direct delivery is the compression of the timetable, as combat ready forces arrive in theater at combat strength. This type of scenario does increase the airlift requirement at the outset of any conflict where direct delivery is implemented, and likely would require a high operations tempo to sustain the on-going operation due to the limited ability of light forces to self-sustain over long periods.

The actual ton-mile requirement has yet to be analyzed using a direct delivery scenario, yet it seems logical that the Army After Next will wish to utilize this concept to speed up delivery, and it fits into the Army's force projection concept to, "conduct decisive operations so rapidly that the enemy is defeated before he can effectively confront US forces."²⁴ That direct delivery improves deployment speed is evident, but there are downsides. The threat environment must be conducive to operating heavy jets close to the point where ground troops are needed. The airport environment can be primitive, but still must meet minimum

requirements for landing, ground operations, takeoff, and obstacle clearance. The utilization of aircrews for long duration flights, where aircraft depart the CONUS and air refuel enroute to overseas locations, perform a tactical low-level arrival into the conflict area, and then end with a maximum effort short field landing, can create high risk levels associated with personnel stress and fatigue. There is a trade-off between higher risks for the mission and gains from deployment speed. Combat forces are delivered rapidly and a staging base for crew swaps and crew rest is eliminated, which reduces support requirements. However, one study concludes that in situations where the number of aircrews is limited, the lack of a staging base can reduce strategic airlift capacity by 20 to 25 percent.²⁵ The structures of the C-17 and C-5 communities, with the Reserve Component Associate augmenting active duty aircrews, provide enough crew ratio per aircraft to avoid this particular problem, although a high operations tempo over a long period could stress even that robust capability.

There are, of course, other issues to be addressed by the planning community. On the airlift side, the Army is assessing two different delivery scenarios, hub-and-spoke and direct delivery. Army doctrine, FM 3-0, talks about rapid force projection to move combat ready forces directly into theater to seize the initiative from the enemy, while simultaneously addressing the four supporting components of deployment: pre-deployment, fort to port, port to port, and port to destination.²⁶ For the Army these four components are required when moving by sea regardless of the size of the force, but if moving by air there are two options. If there is a suitable airfield at the fort, then there is the capability to go from fort to destination using the C-17 in a direct delivery role, or one may opt to move to a forward staging location before moving to destination. The positive aspects of direct delivery are the increased speed of delivery and immediate combat power focused at the delivery point, but

also important is the economy provided by the reduction on airframe utilization. A direct delivery aircraft uses less time enroute, because it does not stop for fuel and maintenance at designated stage bases. This increases the number of round trips that an aircraft can complete and makes more airframes available for the operation. There are, of course, some negative consequences associated with direct delivery. These include the heavy reliance on air refueling that transoceanic direct delivery missions require, the initial surge of large numbers of aircraft required to deliver a sizable force directly to combat, and the benign threat environment that large aircraft need in order to operate.

Competition and Dependence

The Army is securing fast sealift, apparently because it cannot get light enough, fast enough to wicker forces into the ton-mile maximum that would meet Operation and Concept Plan (OPLAN/CONPLAN) timelines. There is a mismatch between Army vision and available lift resources, now and in the foreseeable future, unless alternate transportation can be procured. Even then, it will be extremely difficult for the Army to place credible forces in distant theaters at closure times of 96 and 120 hours without utilizing airlift. The Army is working hard to get smaller and more lethal, but is also competing with the Air Force for airlift. The Air Force requires airlift at the beginning of any conflict to move AEF assets into trouble spots, usually at the same time that all the Services need airlift. As an example, the notional requirement to move an AEF requires AMC to provide roughly 200 airplanes and over 10,000 people each quarter.²⁷ As a perspective, that equates to ten percent of the Air Force's aircraft and five percent of its deployable personnel.²⁸ An AEF, in support of a contingency, could be larger or smaller depending on the threat, but it will use a significant amount of airlift.

The Army and Air Force also compete with day-to-day operations. USTRANSCOM often operates at wartime tempo during times of relative stability.^d In June 2001, with no on-going major contingencies, the USTRANSCOM commander reported that, “USTRANSCOM frequently finds itself operating at a near wartime tempo^e... We are frequently called upon to surge to a combat operations tempo without benefit of our full wartime manning or activation of our agreements with industry for their surge capacities.”²⁹

Agility

As U.S. military forces become more agile, they will not necessarily require less airlift. These smaller, quicker forces will need to get to the fight faster and earlier, and may actually require more initial lift due to time compression. They will travel lighter and need to be resupplied more often; even though the latest logistics initiatives will streamline the process to reduce waste, it is yet to be seen if such savings will reduce resupply sorties. The Air Force’s answer to the problem is to buy more aircraft, but this solution has a natural limit, which is throughput. Without the historically robust infrastructure provided by U.S. facilities overseas, the U.S. military is dependent on airfields provided by allies. These are often limited by available space for parking, fuel, trained loading crews, aircraft handling equipment, and competition for airspace with commercial carriers. Airlift will be artificially limited by how many missions a location can service. Another factor that could invalidate the delivery mix is

^d During an average week in June 2001, USTRANSCOM flew 1,669 strategic air mobility missions transiting 52 countries, operated 22 military ocean ports in 13 countries, and had 20 chartered military ships underway. Thirty-six additional government-owned chartered vessels loaded with military cargo were positioned all around the world. U.S. Congress. Senate. Committee on Seapower. Strategic Airlift and Sealift Imperatives. 107th Congress, 12nd session, 26 April 2001.

^e The General Accounting Office (GAO) in June 2000 observed that the “DOD does not have sufficient airlift...to meet the two major theater war requirements because many aircraft needed to carry out wartime activities are not mission ready.” The GAO estimated that DOD is 29 percent short of being able to meet the established military airlift requirement. General Accounting Office, “Military Readiness: Air Transport Capability Falls Short of Requirements,” Code 702017-NSIAD00-135, June 2000, 1.

the amount of warning time that a given threat provides. The less warning time prior to a conflict, the higher the probability that airlift would be required to move forces to theater to accomplish the halt phase against an enemy's attack. With more warning, the United States may be able to rely more extensively on sealift as the primary mover of forces,³⁰ but warning time is usually outside the control of the military.

Downsizing

Why have we arrived at a point where airlift cannot meet Service requirements? Ironically, it is because we have gotten smaller. The reduction of forces overseas has been dramatic. In the last 15 years the active military component has reduced manpower by 30 percent, the defense budget by 40%, and weapon systems acquisition by 70 percent.³¹ Such downsizing should generate a smaller, more mobility-friendly force, but has not because the cuts have been made predominantly in forward-based force structure. For example, the United States has withdrawn two-thirds of its ground and three-fourths of its air forces from Europe.³² These reductions significantly increase the distances that forces now must travel, and create a large airlift gap that was previously filled, at least in part, by intra-theater airlift, a robust support structure overseas, and combat forces stationed close to the fight. These issues and requirements are taken into account in the MRS-05 study, but this study predates the Army After Next vision and new requirements levied by the Department of Homeland Defense in the wake of September 11, 2001. A new MRS is needed to incorporate these additional requirements.

Sequencing and Selection

Understanding that Service vision and doctrine may create redundant capabilities across the Services may actually benefit the theater commander who understands the nuances. First,

it gives that commander the ability to select forces best suited to the delivery method most available at the point in time most needed. For instance, an ongoing operation in another theater may require a large portion of strategic airlift assets, so opting to use a MEF delivered by sea could speed up forces to the theater significantly, as compared to waiting for airlift assets to become available. Second, understanding the strain on the transportation system caused by unsynchronized Service needs can drive realistic plans for phasing operations over time. Third, the flexibility of the modern strategic lift system can give the theater commander more powerful tools than previously available. For instance, the use of the Navy's leased catamarans to move troops and equipment into theater at a slightly slower rate than airlift may allow USTRANSCOM to "chop" some wide-body airlift assets to the theater commander for intra-theater airlift or airdrop. Finally, the redundant capabilities, though implying less joint efficiency, create an opportunity in that extra strategic lift capacity may be available during those time periods when the system is under-stressed. This extra lift capability could accelerate the timeline for the arrival of forces in theater and produce the ability to commence operations earlier than planned, providing the commander with the one commodity that is always in short supply, time. Knowledge of the lift environment, the availability of options, and smart sequencing will determine success.

Single Airframe Issue

A key issue with the airlift solution to the MTM/D challenge is increased reliance on a single airframe. Originally the service life of about half the C-5 aircraft in the inventory was to be extended through new engines and upgraded avionics. Authorization to increase the C-17 purchase enables USTRANSCOM and AMC to reduce the number of C-5s scheduled for upgrade and ultimately reduce the number of C-5 airframes in the inventory. This positions

the C-17 as the only major weapon system capable of strategic airlift. Although there are gains in efficiency with the higher mission capable rates of the “newer” C-17, the theater commander will have to deal with inherent weaknesses of single system operations. Specifically, the grounding of an entire fleet due to a single problem with airframe hardware can and has occurred. The C-5 and C-141 fleets have both been grounded during their life cycles due to wing stress cracks, and the groundings could have been more numerous except for the exceptional support from contractors and engineers.^f The USTRANSCOM commander in 1997, General William Kross, recognized this when he wrote, “You would never want to have 250 of the same kind of airplanes...because you have to hedge against having your entire fleet grounded for some common cause.”³³ A robust capability, which includes the Civil Reserve Air Fleet (CRAF) and several organic inter-theater airframe options (C-5, C-17, KC-10^g), reduces the likelihood that a single point of failure will be catastrophic.

Speed of the World

There are numerous reasons why rapid global mobility has grown in importance. The first is that we are in the midst of an information revolution, where the speed of conflict escalation has been accelerated. With this comes the need for military forces to react quickly and bring sustained firepower anywhere on the globe. Second, more than 80 percent of U.S. forces are

^f The 433rd Airlift Wing, Kelly AFB, TX was faced with the threat of having the entire fleet of C-5s grounded due to severe cracks found on the Torque Deck panels. Through research and expertise, they developed a permanent repair procedure for their fleet at home station versus funneling one aircraft at a time to depot for repairs. “C5A Torque Deck Repair Team,” Booth: 1708A, 2002 AFA Technology Exposition, 05 September 2002, <http://expo.jspargo.com/afa/program02_chief.htm>, [02 May 2003].

^g The KC-10 is considered the quintessential air mobility asset. Its primary role is to refuel other aircraft, but it is a significant strategic air mobility asset in its own right. In one of its cargo configurations it is able to carry 22 pallets, 4 more than the C-17. In fairness to the C-17, it cannot carry outsize cargo or do direct delivery, and it requires high-lift handling equipment to download its cargo. Still it is an extremely capable strategic vehicle for palletized port-to-port delivery.

now stationed in the continental United States.³⁴ Smaller active duty forces, coupled with growth in operations tempo, will increase the need for rapid power projection. Third, the initiative by the Services and logistics components toward “lean logistics,” “agile logistics,” and “just-in-time delivery” decrease the inventory and place the burden of timely support on the delivery vehicles. Fourth, the media has instant access anywhere on the globe and thus can influence the viewing public. An event in one place often makes itself felt in many other places until the need to respond becomes unstoppable; global interdependence causes U.S. response, usually through military means. Fifth, continuing small-scale contingencies, including peacekeeping, peacemaking, peace enforcement, humanitarian assistance, nation building, and disaster relief require the deployment of troops, equipment and supplies, re-supply, and re-deployment. Sixth, in the post-Cold War world the proliferation of WMD requires the ability to respond immediately. Afghanistan and now Operation Iraqi Freedom are major commitments for our mobility assets. In 1991, retired U.S. Army Colonel Harry Summers stated, “In the post-Cold War, post-nuclear world, the real strategic military headquarters is ...the United States Transportation Command at Scott AFB in Illinois.”³⁵

Additional Requirements

So far all the requirements have been military in nature and all the studies have focused on these requirements. The new emphasis on homeland defense will change this equation. DOD will now have to incorporate inter-departmental requirements from FEMA, the FBI, and other agencies that respond to such events. These requirements will significantly increase the baseline, as Gen. John W. Handy, Commander of the U.S. Transportation Command and Air Mobility Command, reported to Congress in September 2001. He noted that, “Our initial review of the new strategy leads to the conclusion that strategic mobility requirements will be

even more demanding than MRS-05, in part due to the likelihood of a homeland defense response occurring concurrently with major wars overseas.”³⁶

My logisticians are a humorless lot...they know if my campaign fails, they are the first ones I will slay.

--Alexander The Great

Conclusion

Current Service vision and doctrine will meet the theater commander’s requirement for forces. These forces, due to the similar nature of their rapid response doctrine, will be agile and rapidly deployable. The similarity and agility of these forces, coupled with the increases in operations tempo and emphasis on homeland defense will create competition for airlift.

The theater commander will be able to select from a lethal array of forces, but will have to sequence assets carefully to support theater requirements. The ability of today’s aircraft to perform direct delivery will benefit the theater commander, but will require a refinement of Army doctrine to maximize effects. Overall, the independent development of each Service’s vision and doctrinal publications creates competition for scarce resources, which drives efforts to produce more efficient and useful combat forces. While the Services recognize lift shortages and are attempting innovative solutions, USTRANSCOM and AMC have already purchased the C-17 as the delivery vehicle for the next 50 years, and Service doctrine will need adjustments to recognize the *fait accompli*. Airlift will continue to be the preferred delivery vehicle as the need to respond rapidly continues to accelerate due to the high-tempo nature of the information age.

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²⁰ The table summarizes three major studies.

ASSUMPTIONS	MRS	MRS-BURU	MRS-05
Completion Date	January 1992	March 1995	September 2000
Scenario Time Frame	1999	2001	2005
Scenario Context	Single MRC/LRC	Two MRCs/single MRC	Two MTWs
Mobility Threat	Conventional	Conventional	Conventional and chemical
Warfighting Threat	Conventional	Conventional w/some chemical	Conventional and chemical
Scope	Inter-theater, Intra-conus	Inter-theater	Intra-CONUS, inter-theater, and intra-theater

Source: Rand Corporation, Mobility Requirements Study, 2005: MRS-05, (Washington, D.C., 1997), 1-2.

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